

**Abstract of the Disclosure**

Newly identified mammalian taste-cell-specific G protein-coupled receptors, and the genes and cDNA encoding said receptors are described. Specifically, T1R G  
5 protein-coupled receptors active in taste signaling, and the genes and cDNA encoding the same, are described, along with methods for isolating such genes and for isolating and expressing such receptors. Methods for representing taste perception of a particular tastant in a mammal are also described, as are methods for generating novel molecules or combinations of molecules that elicit a predetermined taste perception in  
10 a mammal, and methods for simulating one or more tastes. Further, methods for stimulating or blocking taste perception in a mammal are also disclosed.